

Pressure Reducing Control Valves are hydraulic control valves that reduce the input pressure value to the desired pressure value by means of a pressure reducer stainless steel pilot mounted on it. The pressure reducer control valve constantly controls the output pressure value to be set without being influenced by the flow rate and inlet pressure values. When there is no flow in the system, the valve closes itself. When the valve inlet pressure value in the system falls below the set outlet pressure value, the valve opens itself. The valve can be used in horizontal or vertical position on the system.



Sample Application



- M** Manually Controlled Valve
- PR** Pressure Reducing Control Valve
- PRPS** Pressure Reducing + Pressure Sustaining Control Valve
- PS** Pressure Sustaining Control Valve
- PREL** Pressure Reducing + Solenoid Controlled Valve
- EL** Solenoid Controlled Valve
- QR** Quick Relief Control Valve
- FL** Float Level Control Valve
- FLEL** Electric Float Level Control Valve
- DIFL** Differential Float Level Control valve
- PC** Pump (Booster) Control Valve
- DPC** Deep Well (Submersible) Pump Control Valve
- SA** Surge Anticipating Control Valve
- HD** Hydraulic Check Valve

Valmatic hydraulic control valves are automatic valves with direct diaphragm shut-off working with line pressure. It is a comfortable, smooth flow in the minimum pressure loss of the body and diaphragm, which is kept in the foreground in its design. The valve can be used in horizontal or vertical position on the system.

In hydraulic control valves, worn parts such as shafts, bearings and bushings are longevity. The single moving part of valves is the diaphragm.

Valmatic hydraulic control valves, in-line water pump, agricultural irrigation, fire systems, filtration, industrial, etc. designed for use in areas.



Working Principles

They are automatic control valves which are used hydraulically to perform the desired operations with line pressure without the need of energy sources in the mains line.

Valve Closing Mode

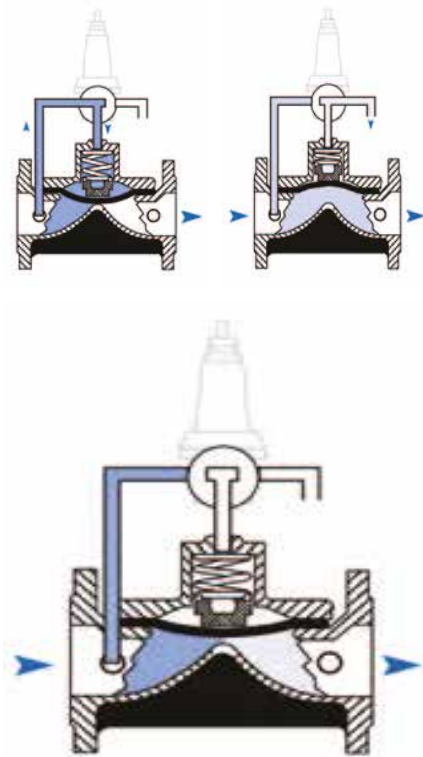
When the pilot discharge position on the main control valve in the closed position is reached, the pressurized water on the diaphragm of the main control valve is drained. When the line pressure reaches the position of spring force, hydraulic force is applied to the diaphragm of the control valve under water, so that the valve is in full open position.

Valve Opening Mode

When the pilots on the main control valve reach the water pressure diaphragm, the water creates a hydraulic force. The resulting hydraulic force combines the diaphragm with the force applied by the spring to create a complete seal and close.

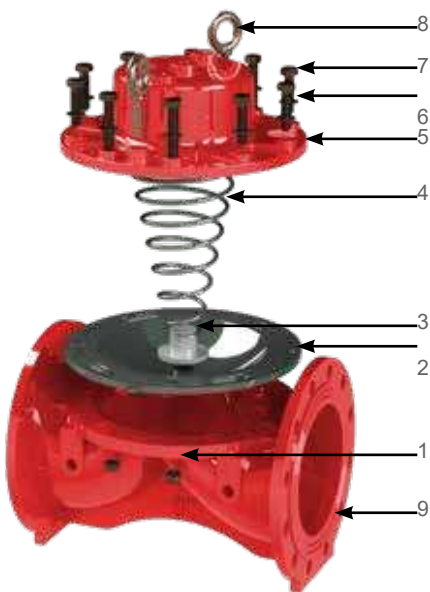
Modulation Mode

These are the pilot valves which are connected to the control valve which allows the main valve to operate in this position. According to the amount of flow and pressure to be adjusted, the water pressure on the diaphragm is controlled constantly, allowing it to operate in a modulated position.



From 2" To 5"

| | | Connection | | Material | | Body | | Transmission Pressure | | |
|----------------------------|--|------------|-----|----------|-----|-------|-----|-----------------------|-----|-----|
| | | Flanged | | GGG40 | | Globe | | PN10-PN16-PN25 | | |
| AVAILABLE DIAMETERS | | | | | | | | | | |
| mm | | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| inch | | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| L (mm) | | 200 | 214 | 290 | 305 | 370 | 405 | 495 | 545 | 585 |



From 6" To 8"
10"&12" Double Cover.

| # | Material Name | Type of Material |
|---|------------------|------------------|
| 1 | Body | GGG40 |
| 2 | Diaphragm | Natural Rubber |
| 3 | Spring Seat | Polyamide |
| 4 | Spring | SST 302 |
| 5 | Cover | GGG40 |
| 6 | Washer | 8.8 Coated Steel |
| 7 | Bolt | 8.8 Coated Steel |
| 8 | Lifting Eyebolts | 8.8 Coated Steel |
| 9 | Nut | 8.8 Coated Steel |

Technical Specifications

| | | |
|------------------------------|---|---|
| Operating Pressure | Standard | 0,7 - 16 bar (10 - 240 psi) |
| | Low Pressure Range | 0,5 - 10 bar (7,5 - 160 psi) |
| | High Pressure Range | 0,7 - 25 bar (10 - 360 psi) |
| Temperature | Minimum Operating Temp. | - 10 °C (14 °F) DIN 2401/2 |
| | Maximum Operating Temp. | 80 °C (176 °F) DIN 2401/2 |
| Connection | Flanged | EN 1092-2, ISO 7005 - 2 |
| | Threaded | ISO (BSP) , ANSI (NPT) |
| Covering | Standard | Epoxy |
| | Optional | Polyester |
| Hydraulic Connections | standard | Reinforced Nylon (Air Brake) Hydraulic Tube SAE J 844 |
| | Optional | Copper DIN1057 |
| Actuator Type | With Single Control Chamber Aperture With Diaphragm | |

HYDRAULIC PERFORMANCE

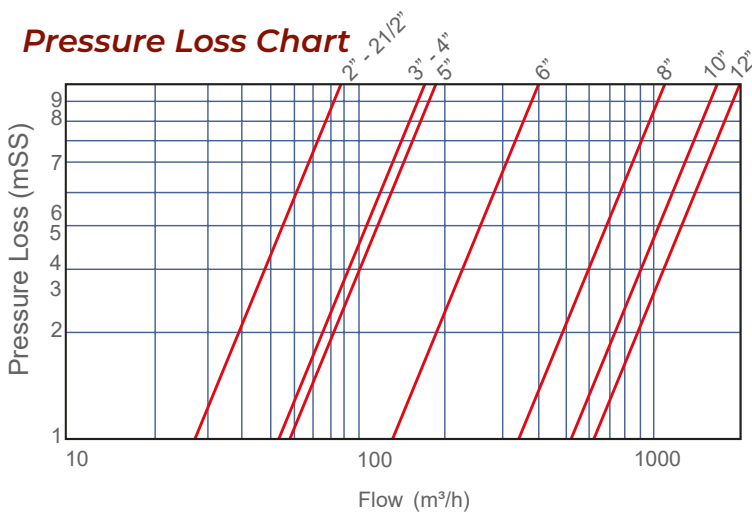
| | inch | cm | inch | cm | inch | cm | inch | cm | inch | cm | inch | cm | inch | cm | inch | cm | inch | cm |
|----------------|------|----|------|----|------|----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| Valve Diameter | 2 | 50 | 2½ | 65 | 3 | 80 | 4 | 100 | 5 | 125 | 6 | 150 | 8 | 200 | 10 | 250 | 12 | 300 |
| Kv m³/h@1bar | 88 | | 88 | | 174 | | 187 | | 187 | | 419 | | 1139 | | 1698 | | 2276 | |
| Cv gmp@1psi | 102 | | 102 | | 201 | | 216 | | 216 | | 484 | | 1316 | | 1961 | | 2629 | |

$$Kv(Cv)=Q \cdot \sqrt{\frac{G}{\Delta P}}$$

Kv : Valve flow coefficient (flow rate at 1 bar pressure loss m³/h @ 1
Cv : Valve flow coefficient (flow in pressure loss of 1 psi GPM @ 1
Q : Flow (m³/h, gpm)

Cv=1,155Kv **ΔP**: Pressure Loss(bar, psi) **G**: The specific gravity of water(Water=1.0)

Pressure Loss Chart



Cavitation Chart

